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Applications of GIS in spatial visitor management of protected areas

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Spatial land use planning is a critical component of visitor management in urban parks and other protected areas. It serves to manage visitor distributions in relation to park infrastructure and landscape features. Participatory spatial planning of public lands is a relatively new development in visitor management. In this research we used public participation geographic information system (PPGIS) mapping and tracking combined with questionnaire-based surveying to monitor distributions, land use behavior, and certain impacts of visitors to selected national parks and surrounding land tenures in Northern Sydney, Australia. Fundamental spatially implicit management questions were asked on (1) distributions of visitors; (2) spatial overlap of different visitor activities; (3) use of visitor infrastructure (e.g., time spent at specific infrastructure as an indicator for demand); (4) location-specific actions required to improve existing visitor experiences. This research showcases how effective spatial GIS planning tools are in visitor land use management to determine locations that people visit, manage visitor conflicts, identify demand for visitor infrastructure, and facilitate visitor experience development. We discuss methodological implications of using spatial visitor planning tools with a focus on sampling efficiency, time commitment, hardware requirements, technical knowledge of participants, sample audience, representativeness of data, spatio-temporal data coverage, and data processing.

Biography

Isabelle D Wolf is a Research and Analysis Officer at the Office of Environment and Heritage, Australia and Adjunct Associate Lecturer at the University of New South Wales. Isabelle. She undertakes all aspects of innovative spatial park visitor research and monitoring, including visitor experience development and management. She is trained as an ecologist and her specialty is the interface between people and their environment, with recent work on animal behavior and flora and fauna communities in fragmented and disturbed habitats. She has a PhD from the University of New South Wales and published in both social and environmental science journals.

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